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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CHEEMA, UMAR	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/705,759	HIRSIMÄKI, JAN	
	Examiner	Art Unit	
	Umar Cheema	2109	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/01/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 03/01/2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Software, *per se*:

The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

EXAMPLES:

1. A computer program product for . . .

3. **Claims 17-18** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 1-3, 6-22, 25-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi et al (US 6,272,148) in view of Apisdorf et al (US 6,480,977).

6. **Regarding claim 1**, Takagi et al teach a method for improving transmission performance of a Transport Layer Protocol (TLP) connection that uses a data

transmission service of a bearer (abstract, col. 3, lines 65-67, col. 4, lines 1-10), comprising: monitoring data traffic of said TLP connection, and dynamically adjusting a transmission capacity of said bearer according to said monitored data traffic of said TLP connection.

Takagi et al **do not teach** monitoring data traffic of said TLP connection, and dynamically adjusting a transmission capacity of said bearer according to said monitored data traffic of said TLP connection.

However in the same field of invention, Apisdorf et al teach monitoring data traffic of said TLP connection (abstract, col. 1, lines 5-10, 63-67), and dynamically adjusting a transmission capacity of said bearer according to said monitored data traffic of said TLP connection (col. 1, lines 49-60).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the teaching of Takagi et al and Apisdorf et al for method of improving transmission performance of a transport layer protocol (TLP) connection that uses a data transmission service of a bearer. It is beneficial because it helps to determine how much traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (Apisdorf: col. 3, lines 20-28).

7. **Regarding claim 2**, Takagi et al teach the method according to claim 1, wherein said TLP is a Transport Control Protocol (TCP) or a User Datagram Protocol (UDP) (col. 1, lines 15-20).

8. **Regarding claim 3**, Takagi et al teach the method according to claim 1, wherein transmission capacity adjustment information is signaled from at least one TLP instance to at least one bearer instance (col. 6, lines 47-65).

9. **Claims 4-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi et al (US 6,272,148) in view of Apisdorf et al (US 6,480,977) as applied to claim 1 above, and further in view of Ahmed et al (US 6,947,398).

10. **Regarding claim 4**, Takagi et al and Apisodorf et al teach the limitations of claim 1 for the above reason, but **do not teach** the method according to claim 1, wherein said bearer provides uplink and downlink transmission capacity, wherein said data traffic of said TLP connection comprises uplink and downlink data traffic that is separately monitored, and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic.

However in the same field of invention, Ahmed et al teach the method according to claim 1, wherein said bearer provides uplink and downlink transmission capacity (col. 8, lines 10-26, fig 1), wherein said data traffic of said TLP connection comprises uplink

and downlink data traffic that is separately monitored (fig. 2, col. 7, lines 45-50), and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic (col. 8, lines 10-26, col. 11, lines 35-43).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the teaching of Takagi et al, Apisdorf et al, and Ahmed et al for the method according to claim 1, wherein said bearer provides uplink and downlink transmission capacity. It is beneficial because it helps to determine how much traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (Apisdorf: col. 3, lines 20-28).

11. **Regarding claim 5**, Takagi et al and Apisodorf et al teach the limitations of claim 1 for the above reason, but **do not teach** the method according to claim 4, wherein said uplink and downlink data traffic is at least partially asymmetric.

However in the same field of invention, Ahmed et al teach the method according to claim 4, wherein said uplink and downlink data traffic is at least partially asymmetric (col. 8, lines 10-26, fig 1).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the teaching of Takagi et al, Apisdorf et al, and Ahmed et al for the method according to claim 4, wherein said uplink and downlink data traffic is at least partially asymmetric. It is beneficial because it helps to determine how much

traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (Apisdorf: col. 3, lines 20-28).

12. **Regarding claim 6**, Takagi et al teach the method according to claim 1, wherein said data traffic of said TLP connection is monitored at least partially by monitoring a state of at least one TLP segment buffer (col. 2, lines 65-67, col. 3, lines 1-8).

13. **Regarding claim 7**, Takagi et al teach the method according to claim 1, wherein said data traffic of said TLP connection is monitored at least partially by monitoring data input to at least one TLP socket (col. 18, lines 9-21).

14. **Regarding claim 8**, Takagi et al the method according to claim 1, wherein said bearer is a packet-switched or circuit-switched bearer (col. 28, lines 29-42).

15. **Regarding claim 9**, Takagi et al teach the method according to claim 1, wherein said bearer is at least partially based on wireless transmission (col. 22, lines 59-65).

16. **Regarding claim 10**, the combination of Takagi et al and Apisdorf et al teach the method according to claim 1, wherein said bearer is a High-Speed Circuit Switched Data (HSCSD) bearer of a Global System for Mobile Communication (GSM) or of a derivative thereof (Takagi: col. 11, lines 12-23, Apisdorf: col. 2, lines 10-21).

17. **Regarding claim 11**, the combination of Takagi et al and Apisdorf et al teach the method according to claim 10, wherein said transmission capacity of said bearer (Takagi: col. 4, lines 1-10) is adjusted according to said monitored data traffic of said TLP connection by changing a maximum number of traffic channels, at least one air interface user rate parameter, or both (Apisdorf: col. 1, lines 49-60).

18. **Regarding claim 12**, Takagi et al teach the method according to claim 11, wherein said change is performed by using a Call Control (CC) User Initiated Service Level (UISL) up- and downgrading procedure (col. 14, lines 4-15).

19. **Regarding claim 13**, Takagi et al teach the method according to claim 1, wherein said bearer is a General Packet Radio Service (GPRS) bearer or an Enhanced GPRS (EGPRS) bearer of a Global System for Mobile Communications (GSM) or of a derivative thereof (abstract, col. 1, lines 30-38).

20. **Regarding claim 14**, the combination of Takagi et al and Apisdorf et al teach the method according to claim 13, wherein said transmission capacity of said bearer (Takagi: col. 4, lines 1-10) is adjusted according to said monitored data traffic of said TLP connection by influencing a Temporary Block Flow (TBF) setup (Apisdorf: col. 1, lines 49-60).

21. **Regarding claim 15**, Takagi et al teach the method according to claim 1, wherein said bearer is a bearer that uses Code Division Multiple Access (CDMA) as medium access technique, in particular a bearer of an IS-95 system or of a derivative thereof (col. 31, lines 7-18).

22. **Regarding claim 16**, Takagi et al teach the method according to claim 1, wherein said bearer is a Universal Mobile Telecommunications System (UMTS) bearer or a bearer of a derivative of said system (col. 11, lines 12-23).

23. **Regarding claim 17**, Takagi et al teach a computer program with instructions operable to cause a processor to perform the method steps of claim 1 (col. 7, lines 42-59).

24. **Regarding claim 18**, Takagi et al teach a computer program product comprising a computer program with instructions operable to cause a processor to perform the method steps of claim 1 (col. 7, lines 42-59).

25. **Regarding claim 19**, Takagi et al teach a device for improving transmission performance of a Transport Layer Protocol (TLP) connection that uses a data transmission service of a bearer (abstract, col. 3, lines 65-67, col. 4, lines 1-10), comprising: means for monitoring data traffic of said TLP connection, and means for

dynamically adjusting the transmission capacity of said bearer according to said monitored data traffic of said TLP connection.

Takagi et al **do not teach** means for monitoring data traffic of said TLP connection, and means for dynamically adjusting the transmission capacity of said bearer according to said monitored data traffic of said TLP connection.

However in the same field of invention Apisdorf et al teach means for monitoring data traffic of said TLP connection (abstract, col. 1, lines 5-10, 63-67), and means for dynamically adjusting the transmission capacity of said bearer according to said monitored data traffic of said TLP connection (col. 1, lines 49-60).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the teaching of Takagi et al and Apisdorf et al for a device for improving transmission performance of a transport layer protocol (TLP) connection that uses a data transmission service of a bearer. It is beneficial because it helps to determine how much traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (Apisdorf: col. 3, lines 20-28).

26. **Regarding claim 20**, Takagi et al teach a mobile terminal using a Transport Layer Protocol (TLP) connection that uses a data transmission service of a bearer (col. 11, lines 12-23, abstract, col. 3, lines 65-67, col. 4, lines 1-10), comprising: means for monitoring data traffic of said TLP connection, and means for dynamically adjusting

transmission capacity of said bearer according to said monitored data traffic of said TLP connection.

Takagi et al **do not teach** means for monitoring data traffic of said TLP connection, and means for dynamically adjusting the transmission capacity of said bearer according to said monitored data traffic of said TLP connection.

However in the same field of invention Apisdorf et al teach means for monitoring data traffic of said TLP connection (abstract, col. 1, lines 5-10, 63-67), and means for dynamically adjusting the transmission capacity of said bearer according to said monitored data traffic of said TLP connection (col. 1, lines 49-60).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the teaching of Takagi et al and Apisdorf et al for a device for improving transmission performance of a transport layer protocol (TLP) connection that uses a data transmission service of a bearer. It is beneficial because it helps to determine how much traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (Apisdorf: col. 3, lines 20-28).

27. **Regarding claim 21**, Takagi et al teach the device according to claim 20, wherein said TLP is a Transport Control Protocol (TCP) or a User Datagram Protocol (UDP) (col. 1, lines 15-20).

28. **Regarding claim 22**, Takagi et al teach the device according to claim 20, further comprising means for signaling transmission capacity adjustment information from at least one TLP instance to at least one bearer instance (col. 6, lines 47-65).

29. **Claims 23-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi et al (US 6,272,148) in view of Apisdorf et al (US 6,480,977) as applied to claim 20 above, and further in view of Ahmed et al (US 6,947,398).

30. **Regarding claim 23**, Takagi et al and Apisodorf et al teach the limitations of claim 20 for the above reason, but **do not teach** the device according to claim 20, wherein said bearer provides uplink and downlink transmission capacity, wherein said data traffic of said TLP connection comprises uplink and downlink data traffic that is separately monitored, and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic.

However in the same field of invention, Ahmed et al teach the device according to claim 20, wherein said bearer provides uplink and downlink transmission capacity (col. 8, lines 10-26, fig 1), wherein said data traffic of said TLP connection comprises uplink and downlink data traffic that is separately monitored (fig. 2, col. 7, lines 45-50), and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic (col. 8, lines 10-26, col. 11, lines 35-43).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the teaching of Takagi et al, Apisdorf et al, and Ahmed et al for the device according to claim 20, wherein said bearer provides uplink and downlink transmission capacity. It is beneficial because it helps to determine how much traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (Apisdorf: col. 3, lines 20-28).

31. **Regarding claim 24**, Takagi et al and Apisodorf et al teach the limitations of claim 20 for the above reason, but **do not teach** the device according to claim 23, wherein said uplink and downlink data traffic is at least partially asymmetric.

However in the same field of invention, Ahmed et al teach the device according to claim 23, wherein said uplink and downlink data traffic is at least partially asymmetric (col. 8, lines 10-26, fig 1).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the teaching of Takagi et al, Apisdorf et al, and Ahmed et al for the device according to claim 4, wherein said uplink and downlink data traffic is at least partially asymmetric. It is beneficial because it helps to determine how much traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (Apisdorf: col. 3, lines 20-28).

32. **Regarding claim 25**, Takagi et al teach the device according to claim 20, wherein said data traffic of said TLP connection is monitored at least partially by monitoring a state of at least one TLP segment buffer (col. 2, lines 65-67, col. 3, lines 1-8).

33. **Regarding claim 26**, Takagi et al teach the device according to claim 20, wherein said data traffic of said TLP connection is monitored at least partially by monitoring data input to at least one TLP socket (col. 18, lines 9-21).

34. **Regarding claim 27**, Takagi et al teach the device according to claim 20, wherein said bearer is a packet-switched or circuit-switched bearer (col. 28, lines 29-42).

35. **Regarding claim 28**, Takagi et al teach the device according to claim 20, wherein said bearer is at least partially based on wireless transmission (col. 22, lines 59-65).

36. **Regarding claim 29**, the combination of Takagi et al and Apisdorf et al teach the device according to claim 20, wherein said bearer is a High-Speed Circuit Switched Data (HSCSD) bearer of a Global System for Mobile Communication (GSM) or of a derivative thereof (Takagi: col. 11, lines 12-23, Apisdorf: col. 2, lines 10-21).

37. **Regarding claim 30**, Takagi et al teach the device according to claim 20, wherein said bearer is a General Packet Radio Service (GPRS) bearer or an Enhanced GPRS (EGPRS) bearer of a Global System for Mobile Communications (GSM) or of a derivative thereof (abstract, col. 1, lines 30-38).

38. **Regarding claim 31**, Takagi et al teach The device according to claim 20, wherein said bearer is a bearer that uses Code Division Multiple Access (CDMA) as medium access technique, in particular a bearer of an IS-95 system or of a derivative thereof (col. 31, lines 7-18).

39. **Regarding claim 32**, Takagi et al teach The device according to claim 20, wherein said bearer is a Universal Mobile Telecommunications System (UMTS) bearer or a bearer of a derivative of said system (col. 11, lines 12-23).

40. **Regarding claim 33**, Takagi et al teach a system, comprising: at least one terminal (abstract), and at least one network interface (abstract, col. 1, lines 9-13), wherein said at least one terminal and said at least one network interface use a Transport Layer Protocol (TLP) connection that uses a data transmission service of a bearer (abstract, col. 3, lines 65-67, col. 4, lines 1-10), wherein data traffic of said TLP connection is monitored and wherein a transmission capacity of said bearer is dynamically adjusted according to said monitored data traffic of said TLP connection.

Takagi et al **do not teach** data traffic of said TLP connection is monitored and wherein a transmission capacity of said bearer is dynamically adjusted according to said monitored data traffic of said TLP connection.

However in the same field of invention Apisdorf et al teach data traffic of said TLP connection is monitored ((abstract, col. 1, lines 5-10, 63-67) and wherein a transmission capacity of said bearer is dynamically adjusted according to said monitored data traffic of said TLP connection (col. 1, lines 49-60).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the teaching of Takagi et al and Apisdorf et al for a system comprising at least one terminal, and at least one network interface use a transport layer protocol (TLP) connection that uses a data transmission service of a bearer. It is beneficial because it helps to determine how much traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (Apisdorf: col. 3, lines 20-28).

Conclusion

41. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lemilainen et al teach method for coupling a wireless terminal to a data transmission network and a wireless terminal. Carlson et al teach adaptive TCP delayed acknowledgement. Seo et al teach apparatus for analyzing the packet data on

mobile communication network and method thereof. Moore et al teach providing status information in a communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Umar Cheema whose telephone number is 571-270-3037. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on 571-272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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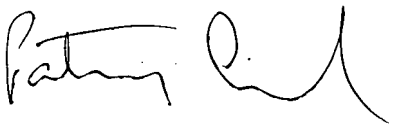
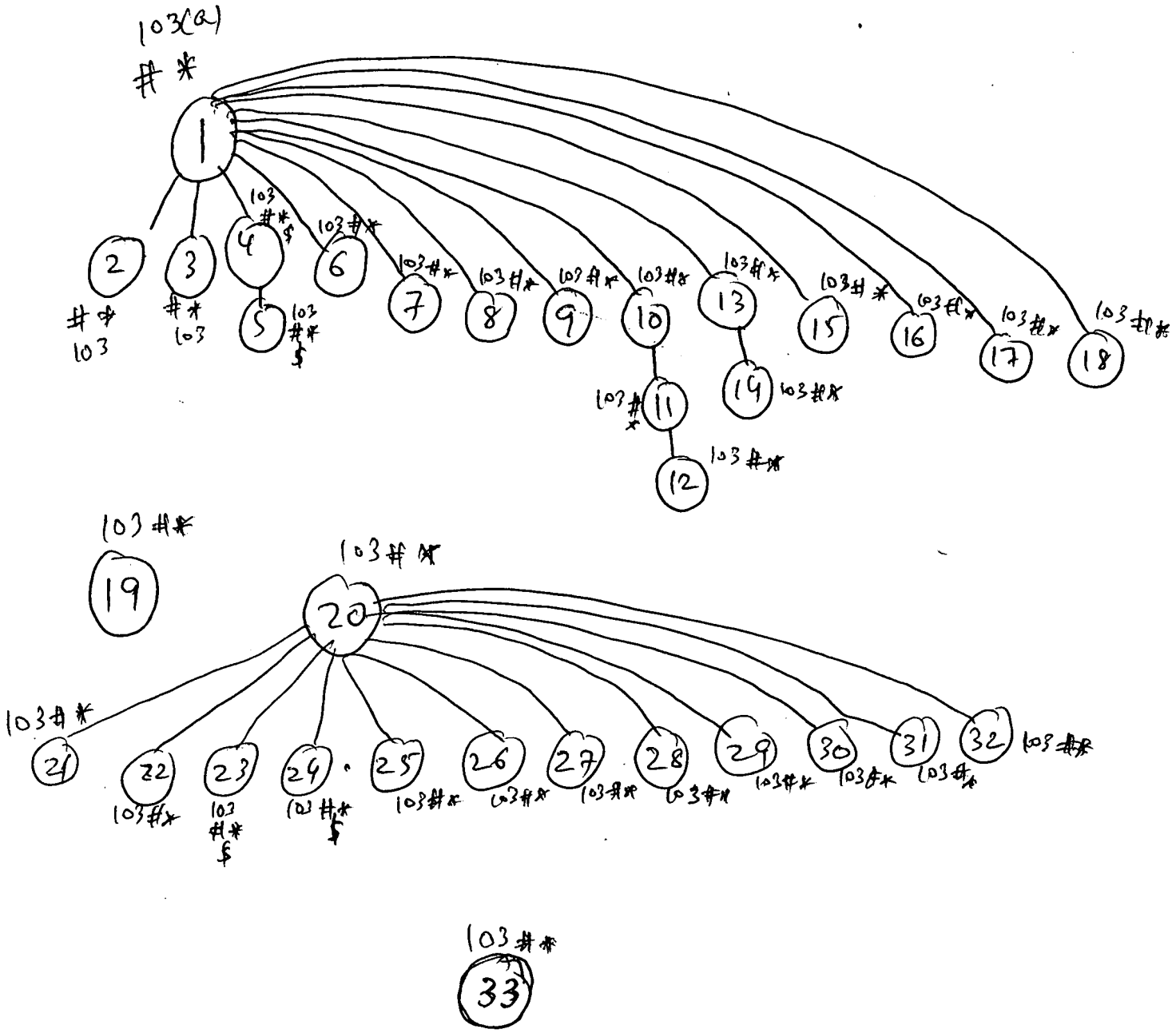


PATRICK ASSOUAD
SUPERVISORY PATENT EXAMINER

Claim Tree Application # 10/705,759



Takagi et al.	#
Apisdorf et al.	*
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